Project Work Plan

Inland Route & Boston-to-Montreal High Speed Rail Corridor Feasibility and Planning Study

June 2013

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INTRODUCTION

PROJECT ABSTRACT

The Commonwealth of Massachusetts with the participation of the State of Vermont and the State of Connecticut is conducting the Inland Route & Boston-to-Montreal High-Speed Rail Corridor Feasibility and Planning Study to identify upgrades and improvements along these two routes that make up part of the federally designated Northern New England High Speed Rail Corridor. The Inland Route rail corridor connects the cities of Boston, MA, and New Haven, CT, via the cities of Worcester, MA, and Springfield, MA. The Boston-to-New Haven corridor via Springfield has been identified as the Inland Route to differentiate it from the Northeast Corridor, which also connects the two cities. Improvements to the Inland Route will facilitate initiation of passenger train service along a second route between Boston and New York at speeds comparable to the existing Amtrak regional trains that travel along the Northeast Corridor. This new passenger train service would follow the Inland Route between Boston and New Haven and then utilize the existing Northeast Corridor tracks from New Haven to New York. The study's Boston-to-Montreal rail corridor connects the cities of Boston, MA and Montreal, QC, via the cities of Springfield, MA and White River Junction, VT. Both corridors share common track on the route between the cities of Boston, MA and Springfield, MA.

BACKGROUND

The Northern New England High-Speed Rail Corridor is one of ten federally designated high-speed rail corridors in the United States. The Boston-to-Montreal corridor was designated by U.S. Transportation Secretary Rodney E. Slater on October 11, 2000 as a high-speed rail corridor as part of the "Northern New England Corridor," with a hub at Boston and two spokes: one to Montreal, QC, Canada, via Concord, NH, and the other to Portland/Lewiston-Auburn, ME. The Inland Route (the rail line connecting Boston-Springfield-New Haven) was designated as an additional part of the Northern New England High-Speed Rail Corridor along with the route between Springfield, MA and Albany, NY in the Consolidated Appropriations Act, 2005 (PL 108-447) on December 8, 2004.

As part of their designation, grant funds were awarded from the Federal government to the respective states to study implementation of high-speed rail service along the Corridor. The Massachusetts Department of Transportation (MassDOT) received a High-Speed Rail earmark planning grant for the Inland Route corridor. A different earmark was issued to the Vermont Agency of Transportation (VTrans) for studying the Boston-to-Montreal corridor. The original alignment that was federally designated for the Boston-to-Montreal corridor consisted of a route via Concord, NH and through White River Junction, VT. An initial study for this alignment was completed successfully in April 2003 and FRA approved a grant for a subsequent, more detailed study effort on September 10, 2003. However, the State of New Hampshire decided at that time to no longer participate in the respective planning effort, which halted progress on Boston-to-Montreal corridor study.

As such, MassDOT and VTrans have revised the project scope to study an alternate alignment for the Boston-to-Montreal corridor utilizing the Inland Route tracks from Boston to Springfield, MA, with the route then turning north along the Knowledge Corridor (from Springfield to East Northfield, MA), and up then through Vermont to White River Junction, where the rail line rejoins the original federally designated high speed rail alignment. With this new alignment, the Inland Route tracks between Boston and Springfield would be utilized by both the Inland Route corridor service that is being proposed as well as the Boston-to-Montreal passenger rail service. The study will thus evaluate both of these corridors as a combined corridor for the purposes of development of the NEPA documentation. Separate Service Development Plans will be developed for each of the two individual corridors.

Given the overlap of these planning projects between Springfield and Boston, MassDOT and VTrans have determined the best way to prevent duplication of effort is to conduct the Inland Route High-Speed Rail Corridor Feasibility and Planning Study and the Boston-to-Montreal High-Speed Rail Corridor Phase II Feasibility and Planning Study as a combined study under a single consultant contract that utilizes funds from both grants. This will ensure that the evaluation of infrastructure improvements and future operations will incorporate both proposed passenger rail services.

Additionally, the segment of the Inland Route between Springfield, MA, and New Haven, CT is the focus of the New Haven-Hartford-Springfield (NHHS) High-Speed Intercity Passenger Rail (HSIPR) Project headed by the Connecticut Department of Transportation, with the Federal Railroad Administration (FRA) as the lead Federal agency. The proposed capacity, reliability, and safety improvements along the NHHS corridor, which are being funded in part by the FRA's HSIPR Program, will facilitate an increase in the maximum train speed to 110 miles per hour (mph), reduce scheduled travel times, and reduce conflicts with freight trains that share the tracks. The National Environmental Policy Act (NEPA) document and Service Development Plan (SDP) for the NHHS corridor incorporate traffic from expanded Boston to Springfield passenger rail operations into their analyses, as such; MassDOT, to the extent possible, will incorporate the NHHS planning effort into this study.

Through these efforts, the Inland Route & Boston-to-Montreal High-Speed Rail Corridor Feasibility and Planning Study will support further evaluation of passenger rail services for Massachusetts, Connecticut, and Vermont, and advance the 2030 Vision Plan prepared by the New England States and Amtrak.

GENERAL OBJECTIVE

This study will examine the implementation and operation of more frequent and higher speed intercity passenger rail service on the Inland Route (the rail line connecting Boston-Springfield-New Haven) and the Boston-to-Montreal corridors along with the corresponding ridership potential and necessary infrastructure improvements necessary to develop NEPA compliant documentation for an Inland Route service development plan (SDP) and a Boston-to-Montreal SDP. The corridor study will focus on incremental infrastructure improvement alternatives that will seek to maximize the use of the existing rail corridors along the 98-mile segment of the Inland between Boston, and Springfield, MA, and the segment connecting Springfield, MA and Montreal, QC,. This study will build upon the current effort to upgrade the Knowledge Corridor, which is being led by MassDOT, as well as the American Recovery

and Reinvestment Act (ARRA) funded improvements to the New England Central Railroad (NECR) line through Vermont along with the effort to upgrade the Springfield-New Haven portion of the Inland Route, which is being led by the State of Connecticut; using analyses and designs previously developed for those segments of the corridors to the greatest extent possible. With use of the Inland Route to complement the existing two track Northeast Corridor (NEC) Shore Line, which connects Boston and New Haven via Providence, RI and New London, CT, the Northeast region would then have four-track capacity between Boston and Delaware.

Geographical and Physical Boundaries

The project limits for potential infrastructure improvements will be the physical limits of the Inland Route between Boston and Springfield, MA, the Knowledge Corridor between Springfield, MA and the Massachusetts/Vermont border, the NECR mainline between the Massachusetts/Vermont border and the US/Canada border, and the CN line between the US/Canada border and Montreal, QC; including potential abutting property as required to install sidings, adjust alignment and modify curves, and accommodate maintenance activities. Infrastructure improvements have already been identified in the NHHS project by ConnDOT for the segment of the Inland Route from Springfield to New Haven, which incorporate the ability to accommodate expanded Boston to Springfield passenger rail operations. As such, the Consultant will work with ConnDOT to attain and integrate the information and data from the NHHS project into this study to the maximum extent possible.

The boundaries for the service development plan and the ridership analysis will cover a larger area, based on the expected passenger-shed for each passenger rail service. At a minimum, the Inland Route service studied will extend from Boston to New York City utilizing the existing Northeast Corridor Route between New Haven and New York City and the Boston-to-Montreal service studied will extend from Boston to Montreal. The final boundaries will be determined as part of Task 2 below.

Inland Route & Boston-to- Montreal High-Speed Rail Corridor Feasiblity and Planning Study
Study Area Map
Montréal
QC
Canadian National Line
CANADA
UNITED STATES
Essex Jct
Montpelier
New England Central Main Line
VT
White River Jct
NH
Portland
NY
Concord
Brattleboro
Albany
Greenfield
Knowledge Corridor
MA
Boston
Worcester
Palmer
Springfield
Inland Route
RI
Providence
New Haven-Hartford-Springfield Corridor
Hartford
CT
New Haven
NJ
To NYC
0 20 40 80
Miles

PROJECT MANAGEMENT

STUDY TEAM ORGANIZATION (*INCLUDING MANAGEMENT COMMITTEE*)

The combined project will be overseen by a three-person Management Committee composed of representatives from Massachusetts, Vermont, and Connecticut. The MassDOT Project Manager will be the overall Project Manager, providing the administrative lead on the project including procurement, consultant oversight, and general coordination with FRA. Vermont's Project Manager will manage the Boston-to-Montreal High-Speed Rail Corridor FRA Cooperative Agreement. ConnDOT will identify a point of contact for the study that will be part of the Management Committee.

PROJECT COORDINATION (*INCLUDING STEERING COMMITTEE*)

As stated above, this study is the integration of two separate feasibility studies, one for the Inland Route corridor and one for the Boston-to-Montreal corridor. The combined project is being conducted through Cooperative Agreements between MassDOT and VTrans (as managing partners), MassDOT and FRA (as Grantee/Grantor for the Inland Route), and VTrans and FRA (as Grantee/Grantor for the Boston-to-Montreal Corridor). A steering committee—made up of key members including MassDOT, Connecticut Department of Transportation (ConnDOT), the Vermont Agency of Transportation (VTrans) the Federal Railroad Administration (FRA), Amtrak, the Massachusetts Bay Transportation Authority (MBTA), Metropolitan Transportation Authority Metro-North Railroad (Metro-North), CSX, New England Central Railroad (NECR), Pan Am Railways (PAR), and Canadian National Railway (CN), as well as other appropriate agencies and parties—will provide oversight, direction and primary product review for the study.

STUDY TEAM DECISION MAKING

The Management Committee will provide the principal direction for the study. It will be responsible to manage the study to be assured that deliverables are consistent with the respective scopes of work for the grant awards. It will provide input to the consultant study team (see below). Input to the consultant study team will include identifying policy related information that is necessary to be considered as part of the study, to develop and verifying that the alternatives developed and considered through the study development are consistent with individual state and overall regional goals and objectives.

During the development of the respective FRA/MassDOT & VTrans scopes of work for two study grants, FRA identified that it would be actively participating in discussions relative to the project development and reviewing interim project deliverables. The schedule has incorporated the FRA's stated review time schedule. The Management Committee and FRA will communicate on at regular basis. The focus of the communication will be to keep FRA informed on the development of study alternatives and related activities so that FRA input relative to the alternatives evaluation can be considered in a manner that maintains the overall project schedule.

Additionally, review time for interim project deliverables by MassDOT & VTrans is included in the schedule. In order to forecast the ability of the study to remain on schedule it is noted that the consultant will need to provide review materials as scheduled and that review of the material must be expedited by FRA and MassDOT & VTrans. It is anticipated that MassDOT & VTrans, and ConnDOT as appropriate, will provide review of project deliverables prior to submission to FRA. To facilitate the review schedule, prior to the start of each task a list of reviewers will be identified for each document delivered for that task, along with a document review/comment schedule. Every effort will be made to provide consolidated comments from each group/agency rather than piecemeal with conflicting commentary resolved in advance by responsible party as appropriate. At times simultaneous review of material maybe deemed appropriate. Determination of simultaneous review will be as part of the ongoing study coordination.

ROLES AND RESPONSIBLITIES

The following is a listing of the roles and responsibilities of the key individuals for the study effort.

MassDOT Project Manager – Paul Nelson

MassDOT and VTrans are the cooperating agencies responsible for management and administration of the study grants funds for the respective corridors described in the section Background above. By agreement between MassDOT and VTrans, MassDOT will act as the lead agency for the combined study scope.

As project manager for the study, Paul Nelson will be the single point of contact for project communication for both FRA and the consultant team.

VTrans Project Manager – Scott Bascom

In accordance with the MassDOT and VTrans agreement, VTrans has designated a project manager. Scott will be responsible for the administration of the VTrans grant for the study. Scott will also be the point of contact for VTrans for progression and coordination of the study.

As the VTrans Project Manager, Scott will be an integral part of the management of the study. Further references to the project management effort is intended to include participation of the VTrans Project Manager as appropriate.

Consultant Study Team

MassDOT, with concurrence from VTrans and ConnDOT, have contracted with HDR Engineering (HDR) to act as the lead consultant for the study. HDR has included subconsultant members as part of its team to provide specific services. The following table is provided to identify HDR Team members and their project role.

Firm	Project Role
HDR Engineering, Inc.	Project Management; QA/QC; NEPA; Station Assessment & Location; Civil/Design; Design Criteria Development; Route Alignment Assessment; Station & Facilities; Operations Modeling; Economic Assessment; Benefit/Cost Evaluation; Risk Assessment
AECOM	Project Management; Demand Forecasting; GIS; Station Layout; Environmental Evaluation; Resources Identification; Environmental Screening; Existing Condition Assessment/Video; Station & Facilities; Benefit/Cost Evaluation; Financial Planning
Fitzgerald & Halliday, Inc. (FHI)	Public Involvement; Cultural Resources
Asset Performance Management, Inc. (APM)	Governmental Coordination; Risk Assessment
Bryant Associates, Inc. (BA)	Existing Condition Assessment
LTK Engineering Services, Inc. (LTK)	Signal/Communications; Positive Train Control; Vehicle Assessment
Transit Safety Management, Inc. (TSM)	Railroad Operations Assessment; Operations Assessment

HDR Project Manager - Ronald O'Blenis

As project manager for the HDR Team, Ron O'Blenis will be the single point of contact for project communication between MassDOT and the consultant team. Ron will be responsible for management and administration of the consultant work activities and overall scope of work in accordance with the consultant contract budget.

Deputy Project Manager – Jay Duncan

As Deputy Project Manager, Jay Duncan will assist the HDR Project Manager in the overall management and administration of the consultant team. Jay will be available to provide supplemental support to MassDOT as appropriate. As senior member of subconsultant AECOM, Jay will also have the overall responsibility for management and delivery of work products from AECOM.

HDR Team Key Staff

The study is divided into major task activities. The individual task and respective task leaders are noted below.

- Public Outreach — Jill Barrett (FHI)
- Demand Forecasting — Bruce Williams (AECOM)
- Environmental Evaluation — Joanne Haracz (AECOM)
- Civil/Design — Sean Kullen (HDR)
- Railroad Operations — James Stoetzel (TSM)
- Economic Assessment — Pamela Yonkin (HDR)
- Study Report Organization — John Weston (HDR)
- Governmental Coordination — Astrid Glynn (APM)

PROJECT MILESTONES

The study milestones are associated with the major work tasks. The work tasks are discussed in greater detail in following sections. A schedule has been developed based on the Notice to Proceed (NTP) to the Consultant Team of 5/1/2013. The project duration is 27 months, as noted in the FRA Grant agreement scope of work.

The following is a summary of the schedule for major project deliverables to be completed and submitted to FRA. A detailed schedule is provided in the last section of this document which provides the associated listing of tasks and major subtasks with schedule dates.

Major Project Deliverables/Milestone Schedule

Task 1: Work Plan and Information Gathering

Detailed Project Work Plan	6/25/13
Existing Conditions Assessment Memorandum	10/31/13

Task 2: Corridor Definition and Initial Demand Estimation

Draft Purpose and Need	10/1/13
Technical Memo on Initial TPC, Ridership and Service Levels	3/18/14

Task 3: Preliminary Service Planning and Alternatives

Technical Memo AA Criteria and Analysis Methodology	2/21/14
Conceptual Engineering	5/30/14
RTC Modeling Report	8/8/14
Alternatives Analysis Report	8/8/14

Task 4: Tier 1 NEPA Documentation

Draft Start of Study Letter	11/22/13
Scoping Report	2/14/14
Final Purpose and Need	4/4/14
Impact Analysis Methodology	9/5/14
Annotated Outline	10/31/14
Administrative Tier 1 NEPA Document	12/12/14
Draft Tier 1 NEPA Document	2/6/15
Final Tier 1 NEPA Document	5/29/15
Draft Record of Decision	7/24/15

Task 5: Service Development Plan

Technical Memo SDP Outline and Methodology	9/26/14
Draft SDP for the Inland Route	3/13/15
Draft SDP for the Boston-to-Montreal Corridor	3/13/15
Final SDP for the Inland Route	7/3/15
Final SDP for the Boston-to-Montreal Corridor	7/3/15

Task 6: Public Involvement

Detailed Public Involvement Plan	7/26/13

DESCRIPTION OF WORK

TASK 1: WORK PLAN AND INFORMATION GATHERING

Subtask 1.1 Project Work Plan

Prepare a detailed Project Work Plan that includes the following sections: Project Management Approach, Description of Work, Project Schedule and Project Budget. The Project Management Approach section will include study team organization (including Management Committee and FRA interaction), study team decision making, roles and responsibilities, and project milestones. The Description of Work section will describe, in detail, the activities and steps necessary to complete these Tasks 2, 3, 4, and 5. In addition, the Project Work Plan will include an updated Project schedule and a Project budget. The Project schedule will include estimated submission dates for the deliverables outlined in tasks 2, 3, 4, 5, and 6.

During development of the Project Work Plan the Management Committee, with support from the consultant, will work to secure any agreement with host railroads needed to access the railroad's property, obtain information and to perform the conceptual engineering and/or NEPA work.

FRA Deliverable: Project Work Plan

Work on Tasks 2, 3, 4, 5, and 6 will not commence until the Project Work Plan with milestones has been completed and submitted to FRA and approval received.

Subtask 1.2 Information Gathering

To provide the framework for improved passenger rail service on the Inland Route and Boston-to-Montreal route, the existing infrastructure along both corridors will be reviewed and documented. The infrastructure assessment of major components will be conducted to a level necessary to support operational analysis, environmental screening, and bottom-up "order of magnitude" cost estimates of improvements identified by this study and future supportive work.

The collected information will be assembled in an Existing Conditions Assessment memorandum. The memorandum will be prepared based on currently available existing information and data, with sufficient detail and field reviews, as needed to support the Tier 1 NEPA document and companion Service Development Plan. The infrastructure inventory shall also be used to populate the Train Performance Calculator in Task 2. The memorandum will include the preparation of scale maps and scale aerial photography of existing conditions.

Based on the data collected, the Existing Conditions Assessment memorandum will highlight the following corridor issues:

1. Current condition and capacity of existing rail infrastructure
2. Current mix of services (freight, commuter, intercity)

3. Existing plans for facility improvements (i.e., commuter service between Worcester-Boston, commuter service into Montreal, changes in stations in Boston, Springfield and Montreal, Springfield - Hartford - New Haven service, the Knowledge Corridor, and ARRA improvements to the NECR)
4. Future service levels for freight, commuter rail, and intercity passenger rail—a plan for the year 2035
5. A basic inventory of the total number of grade crossings by type and location
6. Preliminary environmental constraints
7. US/Canada border crossing issues and/or assumptions

Additionally the memorandum will include the following compiled information:

- Current condition and capacity of the fixed plant, as well as relevant previous conditions.
- Track (including vertical profiles and grades, curve and spiral data, classification, construction, interlockings, turnouts, and number and location of previously existing railroad tracks on a roadbed)
- Signals and Communications - signal systems and interlocked detectors, switches, derails, and snow melters
- Bridges and Tunnels – the collected information will be limited to the review of available inspection reports for the bridges, tunnels, and other structures on the corridor. The reports will be used to estimate which bridges will require improvement, rehabilitation, or replacement to accommodate improved intercity passenger rail service.
- Passenger stations, building(s), ownership, platforms, parking, access to the primary highway system in the area, bicycle/pedestrian access, Americans with Disabilities Act accessibility, and public transit services and facilities
- Existing and expected plans for facility improvements (i.e., intercity passenger, commuter service, and freight operations)
- Documentation of right-of-way ownership and operating rights throughout the corridor
- Documentation of utility systems on, over, adjacent to, or under the rail line and agreements concerning them
- An inventory of grade crossings by type including private, condition, and roadway traffic volume, including warning devices and location
- Document environmental conditions sufficient to assess the existing conditions sufficient to assess the existing environment and prepare a Tier 1 NEPA document. The study area for the environmental existing conditions will consist of a one-half mile buffer on either side of the ROW center line of the study corridor. Environmental conditions will be developed primarily utilizing publicly available Geographic Information Systems (GIS) databases from MassGIS and

similar sources. The main output of the environmental conditions survey will be in the form of GIS mapping. Extensive site visits or high-rail trips will not be employed to develop this information.

- Upon approval of the railroad owner (and Amtrak if needed) a video of the line will be made during the inspection process. The video will be stored on media that is readable with standard Microsoft software.

FRA Deliverable: An Existing Conditions Assessment memorandum on the infrastructure inventory and environmental conditions with field verification as needed.

TASK 2. CORRIDOR DEFINITION AND INITIAL DEMAND ESTIMATION

The purpose of this task is to define the corridor, its constituent markets, practical service levels, and patterns for improved intercity passenger rail, the likely travel time performance that would prevail at each improvement plateau, and resultant travel demand.

The corridor definition and demand analysis shall provide the foundation for understanding potential train travel attributes and corridor travel demand within the corridor. This information will be used to develop the alternatives analyzed in Task 3 – Preliminary Service Planning and Alternatives.

Subtask 2.1 Purpose and Need

The Consultant will prepare a formal purpose and need statement which clarifies the need for improvements to the Inland Route and the Boston-to-Montreal High Speed Rail corridors and includes the projected passenger demands and available markets. This study will examine Boston to New Haven via Springfield, the Knowledge Corridor between Springfield, MA and the Massachusetts/Vermont border, the NECR mainline between the Massachusetts/Vermont border and the US/Canada border, and the CN line between the US/Canada border and Montreal, QC.

A draft Purpose and Need (P&N) will be developed, which will describe the basic transportation challenges and opportunities in the Inland Route and the Boston-to-Montreal High Speed Rail corridors. The Purpose and Need will address projected passenger demands and available markets. A draft of the purpose and need will be provided to FRA for review and comment. Based on the comments received, a final Purpose and Need will be prepared in Task 4.1.

FRA Deliverable: A draft Purpose and Need statement.

Subtask 2.2a Tentative Service Levels, Options, and Performance for Input to the Demand Runs

A Train Performance Calculator (TPC) model within the Rail Traffic Controller (RTC) software package will be used to determine the optimal travel times that would technically be possible utilizing the existing horizontal and vertical alignments of the subject railroad rights-of-way.

This will serve as a benchmark for establishing the performance of a higher-speed intercity service that would operate primarily over existing track in a shared operating environment with freight and commuter operations. This information will be used to identify the locations

of specific operational constraints and the extent of improvements necessary to meet the desired service goals.

RTC data created from previous projects with the Massachusetts Bay Commuter Railroad and the New England Central Railroad, along with track charts and related information will be utilized to code existing track geometry into the TPC. Baseline information will be generated including end-to-end travel times and velocity profiles for the routes between Springfield and Boston and Springfield and Montreal. Train performance information previously developed for the Springfield to New Haven segment will be utilized for that corridor segment.

A maximum of five Service Level/Performance Options that incrementally improve service in the Inland Route and/or Boston-Montreal corridors to meet the purpose and need established in Subtask 2.1 will be coded and analyzed, based on combinations of train technology/performance and stopping/service patterns. The TPC outputs will depict pure train running times for each scenario, to allow stakeholders to compare how each scenario varies from a travel time perspective. Pure train running time is the time a train takes to operate end-to-end on a particular route, and does not include station dwell time or scheduled recovery time.

Subtask 2.2b Service Level/Performance Options

Five intercity passenger rail Service Level/Performance Options will be developed based on permutations/combinations of the following criteria and real-world experience:

- Top speeds of 79, 90, 110, 125 mph
- Increasing average speeds vs. top speed
- Tilt or non-tilt equipment
- Engineering/environmental/mechanical specifications where choices are available including:
    - Superelevation
    - Unbalance
    - Environmental impacts
    - Equipment consists and capabilities not elsewhere addressed
    - Signal and block improvements
- Use of more than one locomotive for trains
- Electrification

The Service Level/Performance Options identified for study will include those which will assist in identifying the range of potential pure train running times that may be achievable with different operating variables.

Subtask 2.2c Station Study

The Station Study shall identify desirable criteria for intercity passenger rail station site selection including population size, development potential, parking, highway access, and intermodal connections. The following station locations shall initially be considered:

Boston, Back Bay, suburban Boston, Worcester, Palmer, Springfield, White River Junction, Montpelier/Waterbury, and Essex Junction/Burlington, with others refined through the market/ridership analysis. A review of relevant prior studies will be conducted to incorporate any previous conclusions or decisions.

Criteria shall be developed for use by the States and municipalities to help the site selection process, and guide necessary development associated with stations. A typical station functional and space program and cost estimate will be prepared to serve as the basis for the site evaluations and conceptual location plans that will be developed by others in future planning efforts. The programs will be based on Amtrak station design guidelines and standards, industry standards (AREMA, etc.) and guidance from the Management Committee. The program will identify general minimum requirements for station elements as necessary to implement passenger rail service meeting ADA, FRA and Amtrak requirements. Conceptual-level capital cost estimates will be prepared for required station improvements to stations noted above or new stations. Selection of any new station location within a community will be the subject of a Tier 2 Project Level analysis. The effort identified in this task will be limited to the work necessary to inform the Tier 1 NEPA document and to generate a comparative cost estimate.

Subtask 2.3 Service Projections and Demand Analysis

The purpose of this task is to identify and project the potential market for improved intercity passenger rail service along the Inland Route and Boston-to-Montreal Route. This task assumes a 2035 operational date.

The study will perform a demand analysis on the basis of realistic and achievable service levels. For demand purposes, this study will examine ridership markets from Boston to New York via Springfield and New Haven and from Boston to Montreal via Springfield and White River Junction. In terms of city-pair markets, the study will include all city-pair markets addressed in the Station Study stopping patterns developed for the intercity service. In addition, the relationship between these corridors and others, such as the Northeast Corridor, as they relate to passenger trips south and north of New Haven along the Northeast Corridor and passenger service to Montreal shall be considered.

Options for train schedules to be considered will include the integration of planned NHHS service by extending planned trains to Springfield to continue operation to Boston and by consideration of trains that would operate on the Boston-to-Springfield segment, being additional trains on the Springfield-to-New Haven segment and/or the Springfield-to-Montreal segment.

Once the range of feasible service options are narrowed down, defined, and estimated by TPC, and the city-pair markets at issue are properly identified, the study shall proceed with a demand analysis, using the existing Amtrak intercity passenger rail model. The model will utilize existing available data; no new surveys will be conducted.

Forecasts of rail ridership over a 20-year period will be developed, based on factors including transit time, fare-level alternatives, service amenities, frequency of trains, locations served, travel by market segment, transportation network characteristics, comparable air and highway service characteristics and costs, relevant current and future socioeconomic conditions, and other model specific variables, as appropriate.

The study will define and prepare forecasts of the determinant socioeconomic and demographic variables and measures as appropriate, including descriptions of growth and development in the study areas. Demographic data should include trip purpose for each trip end-point pair. The study will define modal service characteristics for automobile, bus, air, and intercity passenger rail travel as inputs to the future year ridership forecasts. In addition, the study will define the relationship between variables, parameters, and modeling expressions.

The study will apply the model(s) to predict ridership in an implementation year (2020) and future year (2035). The model analysis will include projections of socioeconomic measures describing growth and development in the study area, as well as the service characteristics for automobile, bus, air, regional rail, and intercity passenger rail travel modes.

The study will conduct sensitivity analyses of key variables and assumptions in the ridership forecasting process in order to estimate the range of error that might be present in the forecasts. This will consist of applying the models with differing sets of assumptions and comparing results to evaluate the effects of changes in socioeconomic variables, rail system characteristics, and other travel network factors. Forecasts shall also be compared with actual patronage on operating systems, where appropriate, and with results from other applicable studies.

Amtrak and other passenger rail carriers will be consulted during the modeling activities, and they will be provided with an opportunity to review and comment on the output of the modeling efforts.

As the study involves the preparation of one or more base year trip tables (estimates of annual numbers of people traveling between geographic zones, by mode of travel, and by trip purpose), the Consultant will ensure that the procedures and assumptions used in preparing these tables are documented, and the tables and documentation shall be made available to the partner states and FRA for their use. The Consultant will ensure that the assumptions and methods used in the modeling activities of this task are documented and shall present that documentation in the report. The task will not include training for staff regarding the ridership model

Subtask 2.4 Rail Operations Coordination Plan

The existing and future intercity passenger, commuter, and freight rail services on the route must be accounted for. Accordingly, as Service Level Options and Preliminary Service Plans are developed, the future needs and plans for each of the corridor operators will be identified. The operator needs will be integrated into the Preliminary Service Plans in order to develop schedules and capacity improvements (track and signals) to accommodate all users of the corridor.

FRA Deliverables:

- A technical memorandum on the development of the TPCs, demand analysis, and service levels for improved intercity passenger rail on the Inland Route and Boston-to-Montreal Route. The Technical memorandum will include any correspondence with other agencies, and referenced information incorporated

from other demand studies prepared by MassDOT, ConnDOT, Vermont DOT, and other FRA agencies regarding the NEC.

- Up to a total of eight sets of TPC modeling outputs resulting from the five Service Level/Performance Options and three Option variations that may have been run. The output will be delivered for use by the study's partner states and FRA, along with all data sets developed to support TPC modeling. This product shall be in a Microsoft/PC-compatible format, or equivalent, and shall include full documentation required for its use. The subsequent use of any data will be the sole responsibility of study partner states and/or FRA including the purchase of related modeling software and training in its use. Included as part of the review of the results of the TPC model, the consultant team will demonstrate data preparation, model operation, and results interpretation for the study's partner states. This activity will be integrated into the coordination with the Management Committee as part of alternative development

TASK 3. PRELIMINARY SERVICE PLANNING AND ALTERNATIVES

Subtask 3.1 Alternatives Evaluation Criteria and Preliminary Service Development Planning Methodology

A technical memo will be developed that outlines the proposed methodology, including evaluation criteria, and measures of effectiveness, for conducting a corridor level alternative evaluation and screening process; and a preliminary service development planning methodology.

The criteria/measures of effectiveness will address how alternatives will be determined to be reasonable and feasible in order to be carried forward into further analysis. The criteria will consider:

- The purpose and need for the action
- Technical feasibility (physical route characteristics, engineering constraints, capacity-constrained existing facilities or infrastructure, safety)
- Economic feasibility (market potential and/or ridership, capital and operating costs)
- Major environmental concerns.

A Preliminary Service Development Planning Methodology memorandum will be developed for submittal to FRA which details the data, information and assumptions that will be used in the development of the preliminary service development plan.

FRA Deliverable:

Technical memo on proposed AA criteria and preliminary service development planning methodology.

Subtask 3.2 Alternatives Analysis

After FRA approval of the AA criteria and preliminary service development planning methodology, the Consultant will conduct the analysis and prepare an AA Report, in coordination with the Management Committee, for submittal to FRA.

Up to three reasonable and feasible Alternatives will be developed that address the purpose and need. The alternatives to be evaluated will be determined by the Management Committee. These will be derived the five Service Level/Performance Options (or variations) developed in Subtask 2.2, including a "no-build or no-action alternative,"

The AA will include analysis of preliminary service planning elements to include:

- A description of the infrastructure improvements for each alternative,
- Operating plans, with rolling stock options for each alternative,
- Planning-level capital cost estimates for each alternative, including unit cost and quantities relating to core track structures, stations, parking facilities, land acquisition, maintenance facilities, any new facilities or upgrades required for high-speed operational control and management, design and construction management allowances, contingencies, and any additional ongoing capital costs
- Ridership forecasts and travel demand for each alternative as previously developed in Task 2, or modified as necessary to reflect any changes in the alternatives. The ridership modeling process for the Alternatives Analysis will be the same as carried out for Task 2.0.
- Revenue projections for each alternative
- Operating and maintenance costs for each alternative, to cover a 20-year period, including maintenance-of-way, maintenance of equipment, train movement, passenger traffic and services such as marketing, reservations/information, station, and onboard services, general/administrative expenses, and cost-sharing arrangements with infrastructure owners and rail operators.
- Screening level identification of alternative's environmental impacts

Based on merits of the alternatives, a preferred alternative will be identified and included in the NEPA documentation and SDP defined in Tasks 4 and 5.

FRA Deliverables: Alternatives Analysis Report

Subtask 3.2a RTC Network Modeling

To assist in determining the amount and type of infrastructure required to support proposed passenger and projected freight services for the preferred alternative, the Consultant will create full Rail Traffic Controller (RTC) dispatching models, as described below.

1. Base Case (projected freight and passenger service for base year). The following data will be incorporated into the Base Case Model:
    - Horizontal and vertical track characteristics.

- Permanent speed restrictions developed from timetables and track charts,
- Station stops and planned work events for freight and passenger trains.
- Wayside signal locations and types developed from any data supplied by the host railroads, supplemented by field observations as necessary.
- Current train schedule and operating procedures.
- A 7-day period will be modeled for this and all other model cases, with a 2-day warm-up and 1-day cool down in addition to the 7 days.
- Calibration of the RTC model with the railroads' schedule data provided by host railroads. Calibration will include:
  - Train travel times and speeds along segments between control points.
  - Meet and pass locations.
  - Work events, crew changes, inspections, and refueling stops.
  - Yard entry and exit.
  - Train delay.
  - On time performance index.

2. Base + Freight Growth for 20 years after proposed implementation date (2035). The following data will be added to the Base Case for this model:

   - Projected increases in freight business from 2015 to 20 years post-implementation of the conventional service (2035), as approved by the host railroads, FRA and MassDOT
   - Any planned or anticipated infrastructure improvements by the host railroads to support anticipated growth of their business.
   - Any planned or anticipated changes in train length, horsepower per ton, maximum speed, work events, or on-time performance as forecast by the host railroads

The Consultant will run the dispatch model with freight growth and record train performance metrics for all train classes.

3. Freight Growth Plus Proposed Passenger Train Schedule, No Infrastructure Added. This model will include the following:

   - Infrastructure and freight schedules as developed from the RTC Base + Freight Growth Model
   - Proposed passenger train schedules.

The Consultant will run the dispatch model with freight growth and the proposed passenger schedule and record train performance metrics for all train classes. This task will document the capability of the future freight infrastructure to accommodate the proposed passenger service, and how the inclusion of that service will impact freight train performance, by comparing these metrics with those derived from the RTC Base + Freight Growth Model.

4. Freight Growth Plus Proposed Passenger Train Schedule, Infrastructure Added. The Consultant will take the RTC Freight Growth Plus Proposed Passenger Schedule, No Infrastructure Added Model and add infrastructure as necessary until:
    - Freight train delay hours, velocity and on time performance match the same output metrics from the RTC Base Plus Freight Growth model.
    - Passenger trains have on time performance equal to or exceeding 92% as required by PRIIA.
5. Freight Growth Plus Proposed Passenger Train Schedule, Randomized. The Consultant will incorporate randomization of freight and passenger trains into the Freight Growth Plus Proposed Passenger Train Schedule, Infrastructure Added Model. Work in this task will include the following:
    - Operational variability will be incorporated in the case described above by randomization of trains as follows:
        - Freight trains will be randomly seeded for entry into the modeled territory at any time within a plus/minus 8 hours of scheduled entry time for all freight trains, subject to discussion with host railroads. In addition, freight train length, tonnage, and horsepower/ton ratio will be varied based on information provided by host railroads.
        - Passenger trains will be randomly seeded into the modeled territory at any time within minus ½ hour of scheduled entry time (randomization may need to be more or less, depending upon the request of Amtrak and the FRA). In addition, randomization may consist of intermediate station delays, based on input from Amtrak.

The modeling process will help determine where additional infrastructure may be necessary to support the proposed passenger rail service without detriment to projected freight service, and validates, through the randomization process, how effectively the proposed infrastructure supports both proposed passenger and projected freight service in a simulation creating typical day to day operating situations on a railroad.

FRA Deliverable: RTC Modeling Report, to include:

- TPC Runs
- Initial Schedules
- Final Schedules
- Assumptions and data used in the study
- Information received in meetings and field trips, and how it was incorporated
- Stringlines for all cases.
- Schematic of the proposed infrastructure including signal locations and aspects
- RTC Network Dispatch Models for all cases

- AVI file recording of all cases

Subtask 3.2b Conceptual Engineering

As part of the AA process, conceptual engineering will be developed to a level sufficient to identify necessary infrastructure improvements and to determine the concept-level cost estimates for each potential route alternative. Conceptual engineering will include developing design criteria, track-work concepts, structural concepts, roadway crossing recommendations, layover and storage/maintenance facility requirements, unit cost data, and conceptual plans. Development of the conceptual engineering will include coordination with the Management Committee, FRA and railroad owners and operators.

FRA Deliverables: Conceptual Engineering of Alternatives.

TASK 4. TIER 1 NEPA DOCUMENTATION

A Tier 1 NEPA study for the combined Corridor Program (both Inland Route Corridor and the Boston-Montreal Corridor) in close coordination with the Management Committee and FRA will be developed. The NEPA study will provide a general level of detail appropriate for the combined Corridor Program. The specific Class of Action (an EA or EIS) will be determined based on the initial corridor demand studies and resources within the study area. Documentation will be prepared that considers the various alternatives for implementing the proposed train service, the conceptual engineering for construction projects necessary to implement those service alternatives, and the potential environmental impacts potentially associated with those projects. The Consultant, in coordination with the Management Committee, will provide all the supporting information in combination with public input for FRA to make a NEPA determination.

Subtask 4.1 NEPA Scoping and Outreach

A scoping process will be conducted in coordination with the Management Committee and FRA, to obtain information from resource and permitting agencies. The following information will be provided and further developed during the scoping process:

- the Purpose and Need Statement
- the corridor study area boundaries
- Start of Study/Notice of Intent (NOI)
- Agency and Stakeholder Involvement Plan
- scoping meetings with the public, stakeholders, and other agencies
- Scoping Report.

A draft start of study letter as appropriate for the NEPA class of action will be developed by the Management Committee with assistance from the consultant for submittal to FRA for review. FRA and/or the MassDOT will distribute the start of study correspondence as needed to initiate the scoping process.

The Management Committee with assistance from the consultant will conduct the scoping process, in cooperation with FRA as the lead agency. Federal, State, and local agencies, Native American tribes, other interested parties, and the public, as identified in the Agency and Stakeholder Involvement Plan will be invited to participate A record of the process will be developed including a summary of comments, responses, and conclusions in a Scoping Report for submittal to FRA for review and approval.

FRA Deliverables:

- Draft Start of Study Letter.
- Scoping Report for review and acceptance.
- Final Purpose and Need Statement for review and approval.

Subtask 4.2 Tier 1 NEPA Document & Section 4(f) Analysis

The Consultant will prepare an annotated outline of the proposed NEPA documentation for submittal to FRA for review and approval. At the beginning of the process a defined list of document reviewers/parties will be identified.

The Consultant will prepare an environmental analysis and focus on the likely environmental effects for the entire combined corridor relating to the infrastructure improvements relating to the type of service being proposed for the identified range of reasonable alternatives. The analysis of impacts will be based on the conceptual engineering prepared in Task 3. The Consultant will prepare the Tier 1 NEPA document as per Council on Environmental Quality guidance and in accordance with FRA's Procedures for Considering Environmental Impacts (64 Fed. Reg. 28545 (May 26, 1999)). The Consultant will ensure the data and analysis developed for the NEPA documentation could be utilized in any future documentation needed for the Massachusetts Environmental Protection Act. The Consultant will propose a methodology for impact analysis for submittal to FRA for review and approval prior to commencing the work. The Consultant will include impacts at a general level of detail for the Corridor associated with:

- Route alternatives
- Cities and stations served
- Train service levels
- Train technology
- Train operating speeds
- Ridership projections
- Major infrastructure components.

Studies to be conducted as part of the NEPA evaluation process for the Corridor Program will be identified as part of the Impact Analysis Methodology, and are anticipated to include the following:

- Air quality

- Water quality
- Noise and vibration
- Solid waste disposal
- Ecological systems
- Impacts on wetlands areas
- Impacts on endangered species or wildlife
- Flood hazards and floodplain management
- Coastal zone management
- Use of energy resources
- Use of other natural resources, such as water, minerals, or timber
- Aesthetic and design quality impacts
- Possible barriers to the elderly and handicapped
- Land use, existing and planned
- Environmental justice
- Public health
- Public safety, including any impacts attributable to hazardous materials
- Recreational opportunities
- Use of Section 6(f) lands
- Historic, archeological, architectural, and cultural
- Use of 4(f)-protected properties
- Socioeconomic
- Transportation
- Construction period impacts
- Indirect and Cumulative

The Consultant, in conjunction with the Management Committee and FRA, will also identify strategies to avoid, minimize, or mitigate identified impacts. This will include coordination with appropriate resource agencies throughout the NEPA process to manage any impacts identified. Specific mitigation strategies will be developed and included in the NEPA document as necessary by resource area, based on the following approaches:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.

- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- Compensating for the impact by replacing or providing substitute resources or environments.

This task will also include preparation of the environmental documents. The Consultant will prepare an Administrative draft NEPA document for the combined corridor for submittal to FRA for review and approval. Modifications to the Administrative draft environmental document requested by FRA will be incorporated and approval received from FRA prior to circulating the document to the public. The Consultant will prepare and submit to FRA a draft Notice of Availability (NOA) as needed. The Consultant will also distribute the NEPA document to agencies and stakeholders, as outlined in the Agency and Stakeholder Involvement Plan.

FRA Deliverables:

- Impact Analysis Methodology for FRA review and acceptance
- Annotated NEPA Document Outline for FRA review and acceptance
- Administrative Tier 1 NEPA document for the combined corridor for FRA review and comment
- Tier 1 NEPA document for the combined corridor approved for public review
- Draft NOA for FRA review and approval.
- Draft – final NEPA document/finding for the combined corridor for FRA review and comment

Subtask 4.3 Tier 1 NEPA Finding

The Consultant will document comments received on the NEPA document and all public comments. Responses to comments will be drafted by the Consultant and submitted to FRA for approval. The final NEPA documentation/Finding will be drafted by the Consultant to include the approved responses to comments and submitted to FRA for review and/or publishing.

TASK 5. SERVICE DEVELOPMENT PLAN

Separate Service Development Plans (SDPs) will be developed for the final selected alternative for the Inland Route corridor and the Boston-to-Montreal corridor identified through Tasks 3 and 4 as identified in the Tier 1 NEPA document and in close coordination with the Management Committee and FRA. Each SDP will lay out the overall scope and approach for the proposed service along each corridor by clearly demonstrating the purpose and need for new or improved passenger rail service; documenting alternatives analysis for the proposed new or improved passenger rail service and identifying the alternative that

would best address the identified purpose and need; demonstrating the operational and financial feasibility of the alternative that is proposed to be pursued; and describing how the priority of projects and most appropriate discrete phases for implementation of the passenger rail SDP .

Subtask 5.1 Service Development Plan Annotated Outline and Methodology

A technical memo will be developed that includes the proposed annotated outline for the Corridor Program Service Development Plan (SDP) and details the proposed methodology for analyzing the required SDP components.

FRA Deliverable: Technical Memo on SDP Annotated Outline and Methodology

Subtask 5.2 Service Development Plan

The following information will be compiled and detailed within in each SDP:

Transportation Need

A discussion of the purpose and transportation need that will be served by the new passenger rail service will be prepared. The need will include an analysis of the transportation challenges and the opportunities faced by the market. The discussion in the SDP of the purpose and need will be based on the work completed as part of Tasks 2.0 and Task 4.0.

Service Rationale

Based on the identified and forecasted transportation need a description of how the proposed service will cost-effectively address the need will be developed. The rationale will draw on other sections of the SDP to provide a qualitative and quantitative discussion of the cost, benefits, and risks of implementing new passenger rail service on the corridor.

Planning Methodology

This section of the SDP will be based on the planning methodology discussed in Task 5.1.

Identification of Alternatives

In this section of the SDP, the alternatives and the development, refinement, and screening process will be described. The basis for the selection of the preferred alternative will be discussed. The work supporting this section of the SDP will be based on the alternatives analysis conducted as part of Task 3.0, and the analysis completed as part of the NEPA document in Task 4.0.

Operations Modeling

Operations modeling developed in Task 3.0 will be documented along with any modifications/variations necessary. The documentation will include railroad operation simulations, equipment analyses conducted as part of Task 3.0, as well as terminal, yard, and support operations assumptions. If the proposed service shares facilities with rail freight, commuter rail, or other intercity passenger rail services, the existing and future characteristics of those services will be included.

Station Access Analysis

A station access and analysis will be developed to address the location of the stations to be served by the proposed service, how these stations will accommodate the proposed service, how passengers will access the stations, and how the stations will be integrated with connections to other modes of transportation.

Ridership Demand and Revenue Forecasts

Ridership demand and revenue forecasts, including the methods, assumptions, and outputs for travel demand forecasts, and the expected revenue from the service, including ridership/revenue forecasts that specify the number of passengers and boardings/disembarking at stations will be developed. This information will include the work product developed in Tasks 2.0 and 3.0 along with any modifications/variations.

Financial Plan

A financial plan will be developed identifying capital and operating funding requirements and sources:

- A capital plan will be prepared which identifies a schedule of annual capital funding required for preliminary engineering and project NEPA documentation, design, construction, and capital maintenance over 20-year planning period. It will identify associated federal, state, local and private sources of capital funding throughout the planning period.
- A finance plan for operations will be prepared. Pro-forma statements of annual revenues and operating costs over the 20-year planning period will be developed. Federal, state, local and private sector revenue and financing sources for operations will also be identified. Operating costs will be based on the estimates developed in Task 3.0

Conceptual Engineering

Conceptual engineering and capital programming to include equipment, infrastructure improvements, facilities, and other investments required for each discrete phase of service implementation. Conceptual engineering drawings will include schematics on 11”x17” sheets and at a scale showing 5 track miles per sheet. Schematics will include existing and proposed railroad mileposts, stations, main tracks, controlled sidings, yard entrances and exits, grade crossings and grade separations, bridges, horizontal and vertical alignment, and freight and passenger train track speeds.

As part of the conceptual engineering, inventory data will be verified and emphasis will be placed on collecting additional or more current data where needed on track, structures, grade crossings, wayside signaling and other project elements that are key to safety and capacity, and likely to have a significant impact on project costs.

Benefit-Cost Analysis

A Benefit-Cost analysis will be conducted for the preferred alternative and operating plan to value the ridership and revenue benefits relative to the costs of infrastructure, operations, and

maintenance. The Benefit-Cost Analysis (BCA) framework is a comparison of values – the cost to build and operate the passenger rail service represent foregone value that could alternatively be invested elsewhere and the benefits of the project represent the improvement in social welfare delivered by the project.

Benefits will be estimated for current and future users on an incremental basis, as the change in welfare that consumers and, more generally, society derive from the access to the new passenger rail service in comparison with an estimated no build situation. As with most transportation projects, the benefits derived from implementation, are actually a reduction in the costs associated with transportation activities.

Data will be leveraged from previous studies wherever possible. The degree to which this data can be utilized to make a reasoned assessment of the public benefits for the current application will be assessed. To assess any potential issues with regards to key assumptions based on primary market research, a Risk Assessment Process will be utilized to appropriately reflect risk and uncertainty and to highlight the precision of the estimates of public benefits.

Corridor Service Implementation and Phasing Plan

A key element of the overall Service Development Plan will be a robust Implementation Plan which documents required funding and sources in a capital and financial plan; provides a realistic implementation schedule and phasing plan; and identifies needed policy actions to implement the service. A Corridor Service Implementation and Phasing Plan will be prepared that recognizes that the investment in the new passenger service will likely be phased over time. The Plan will identify the strategy for maximizing the benefit of incremental funding and will describe how the implementation of the new passenger rail service will be divided into discrete phases.

Service Development Plan

A draft and final Service Development Plan will be prepared for the review and approval by FRA. The SDP will be assembled from the work completed in tasks identified above. A Final SDP will be prepared based on the comments provided on the Draft.

FRA Deliverables:

- Draft SDP for the Inland Route corridor for FRA review and approval.
- Draft SDP for the Boston-to-Montreal corridor for FRA review and approval
- Final SDP for the Inland Route corridor.
- Final SDP for the Boston-to-Montreal corridor.

TASK 6. PUBLIC INVOLVEMENT

Subtask 6.1 Agency and Stakeholder Involvement Plan

An Agency and Stakeholder Involvement Plan will be prepared by the Consultant in coordination with the Management Committee and FRA. The plan will outline the public

and agency involvement program and will identify key contacts within agencies, public officials, affected Native American tribes, and other key stakeholder groups and the public. The plan will also identify key contacts with civic and business groups, relevant interest groups, present and potential riders/users, and private service providers/shippers. The plan will identify how involvement activities will be linked to key milestones in the planning/engineering and environmental analytic process, including public hearings on the Tier 1 NEPA document. This process will include tribal coordination to fulfill FRA's Section 106 responsibilities.

An Agency and Public Involvement Plan will be prepared in coordination with the Management Committee and FRA as follows:

1. Identify Stakeholders: The plan will outline the public and agency involvement program and will identify:
    - key contacts within agencies, public officials;
    - affected Native American tribes;
    - civic, transit, rail, and environmental advocacy groups;
    - business groups such as regional Chambers of Commerce and economic development agencies;
    - first officials along corridor, especially where stations are located;
    - present and potential riders/users;
    - environmental justice populations; and
    - private service providers/shippers
2. Integration with study tasks: The plan will identify how involvement activities will be linked to key milestones regarding:
    - the planning/engineering analysis; and
    - the environmental process, including
        - tribal coordination to fulfill FRA's Section 106; and
        - public hearings on the Tier 1 NEPA document
3. Engagement of special populations: Specific communication strategies will be developed to ensure continuous and meaningful involvement by the public throughout the environmental evaluation. These strategies will ensure the full and fair participation by all potentially affected communities, including minority and low-income populations, in compliance with Title VI of the 1964 Civil Rights Act and Environmental Justice Executive Order 12898.
4. Consideration of public input: The plan will specify how public comment will be documented and reviewed to enable consideration in the planning process.

The draft Agency and Stakeholder Involvement Plan will be submitted to FRA for review. The final plan will be revised, based on received comments and resubmitted to FRA for approval.

FRA Deliverables:

- Draft Agency and Stakeholder Involvement Plan
- Final Agency and Stakeholder Involvement Plan

Subtask 6.2 Agency and Stakeholder Involvement

The Agency and Stakeholder Involvement Plan, which will be developed in coordination with the public outreach efforts being conducted for the NHHS project, is anticipated to include the following process.

The Management Committee will provide oversight, direction, and primary product review for this study as well as guidance on agency and stakeholder involvement. A Project Stakeholder Group will be developed as a forum for the project principal stakeholders to review and comment on study approach, details and analysis. The Project Stakeholder Group will be composed of representatives of the corridor railroads, state agencies, regional planning commissions, interested groups and other appropriate agencies and parties. The Project Stakeholder Group, in whole or in part, is expected to meet up to eight times during the study.

Project Stakeholder Group

The Project Stakeholder Group will be formed to provide input to the study team on the study approach, details and analysis. Study team activities in support of the group will include the following:

Form Stakeholder Group:

- identify potential members representing a wide variety of study area stakeholders, for confirmation with the Management Committee;
- write letters of invitation to potential members; and
- confirm optimal logistics for convening meetings of the group

Management of Stakeholder Group:

- Meetings to facilitate discussion with the Project Stakeholder Group as a whole, or in part, is expected to occur up to eight times during the study;
- the project team will regularly inform the group regarding study progress and activities, and will release applicable project materials to the group in advance of meetings, including:
    - Meeting agenda
    - Reports generated by planning team; and
- the study team will respond to input given by Project Stakeholder Group members

Public Meetings

A total of eight public meetings are anticipated as part of the study efforts: four during the development of the operating and capital plans (first round) and four during the development of the SDP (second round).

To conduct the public meetings the following activities will be required for each meeting:

- identify meeting locations, visit sites and confirm all site logistical elements and requirements;

- publicize meeting, targeting population and stakeholders in close proximity;
- provide an opportunity for virtual attendance if feasible for those unable to attend the meeting in person;
- prepare exhibits and hand out materials in accessible formats;
- prepare and manage all collateral materials – sign-in sheets, agendas, directional signs, and comment forms; and
- prepare meeting summary

Website

A website will be utilized for dissemination of information about the study, including all elements of the report as they are approved. MassDOT will host a webpage on the project on its own server. Materials will be provided to MassDOT in accessible format, in accordance with MassDOT standards

Newsletters

Newsletters will be produced at key milestones summarizing development of the study and distributed as follows:

- outline topics for newsletter;
- write text and compile graphics;
- distribute draft newsletter for review;
- finalize newsletter for release;
- develop study contact list, update list throughout study; and
- distribute newsletter electronically

Local Media Coordination

Press Releases announcing the upcoming public meetings and seeking comments will be drafted for release by MassDOT and VTrans.

Compilation of Public Input

Public comments will be documented as follows:

- establish a web-based database system to organize all comments, with the ability to access customized reports;
- establish a protocol to organize and summarize comments in the database and distribute among study team; and
- establish a protocol to respond to comments

BUDGET

The following table provides a summary of the anticipated budget for each of the study tasks.

Project Cost by Task		
Task #	**Major Task Name**	**Total Cost**
1.0	Information Gathering	$ 284,513
2.0	Corridor Definition & Initial Demand Estimation	$ 434,253
3.0	Preliminary Service Plan and Alternatives	$ 474,188
4.0	Tier 1 EIS	$ 279,513
5.0	SDP	$ 279,513
6.0	Public Involvement Plan	$ 133,570
TOTAL		**$1,885,550**

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SCHEDULE

The following table provides a summary of the anticipated schedule for each of the study tasks. The attached Gantt chart provides additional schedule detail for the project schedule.

Task	Task Name	Estimated Duration to Complete
1	Information Gathering	6 months May 1, 2013–October 31, 2013
2	Corridor Definition & Initial Demand Estimation	8 months July 10, 2013–March 18, 2014
3	Preliminary Service Plan and Alternatives	9 months December 2, 2013–August 29, 2014
4	Tier 1 NEPA Compliance	22 months October 28, 2013–August 21, 2015
5	Service Development Plan	11 months September 2, 2014–July 31, 2015
6	Public Involvement	28 months May 1, 2013–August 28, 2015

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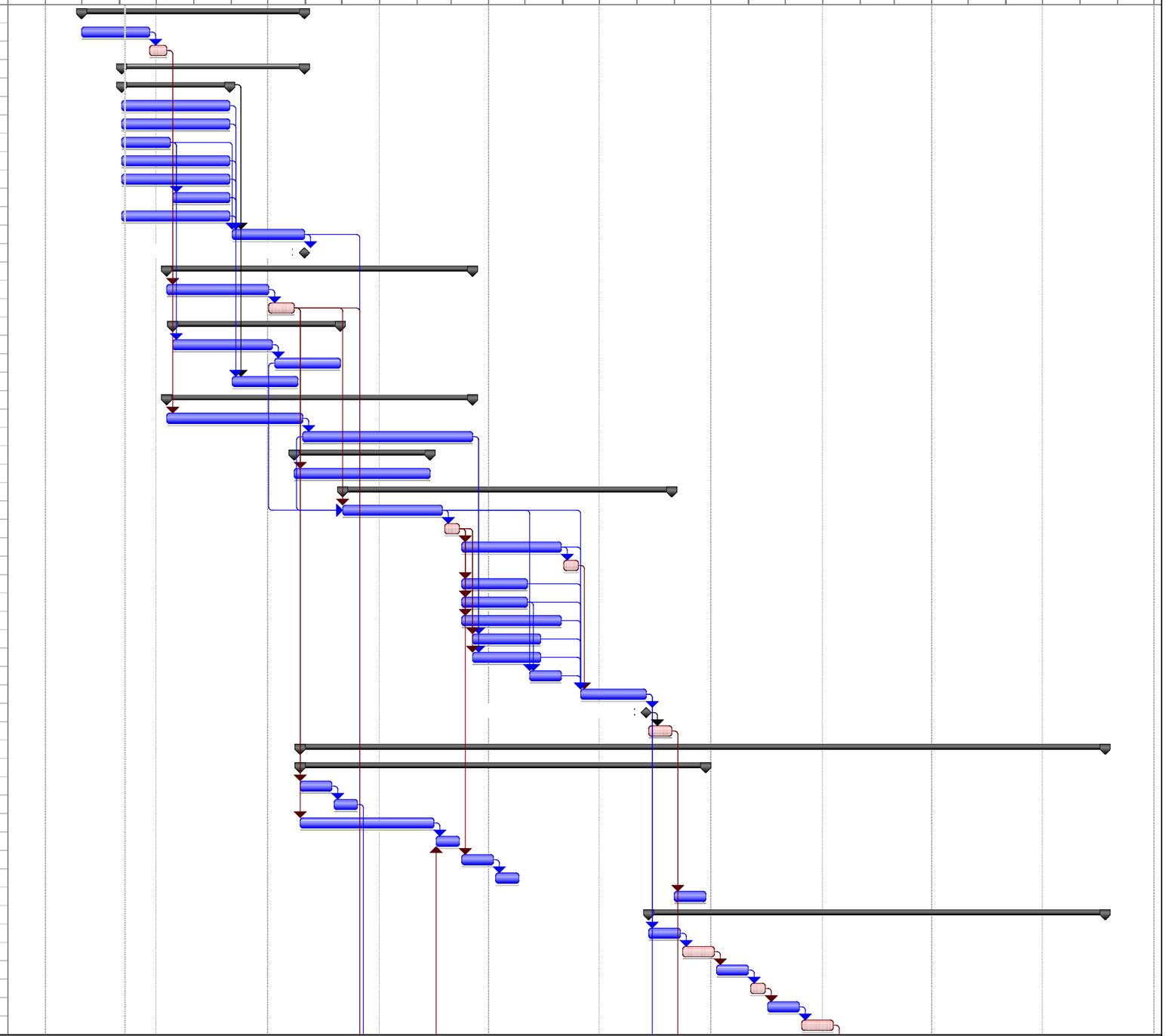

Project: Inland Route and BMHSR
Date: Wed 6/5/13

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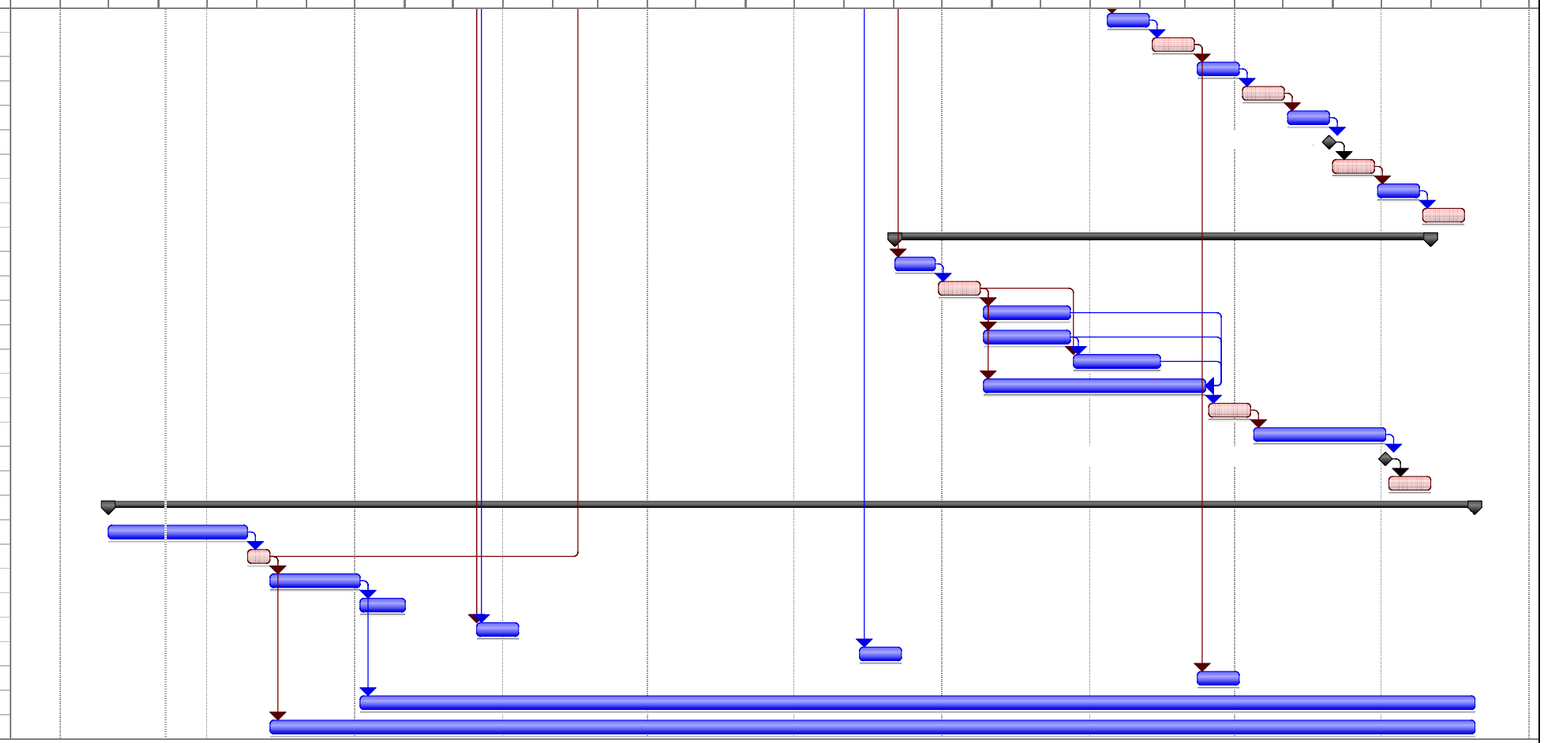

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